IN THE CLAIMS:

Amendments to the Claims

Please cancel claims 1-8 without prejudice or disclaimer of the subject matter thereof, please amend claim 9 and add the new claims as shown below.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-8 (canceled)

9.   (currently amended) A method of diagnosing a semiconductor processing apparatus for imparting plasma treatment to a sample arranged in a vacuum process chamber, including plasma generation means for generating plasma inside said vacuum process chamber and process gas introduction means for introducing a process gas into said vacuum process chamber, said method comprising the steps of:

imparting mechanical oscillation to said semiconductor processing apparatus; and

detecting mechanical oscillation generated by said step of imparting mechanical oscillation inside said ~~vacuum~~ semiconductor processing apparatus.

10.   (new) A method of diagnosing a semiconductor processing apparatus according to claim 9, wherein said mechanical oscillation is imparted to components provided in said vacuum process chamber.

11. (new) A method of diagnosing a semiconductor processing apparatus according to claim 9, wherein said detecting step detects mechanical oscillation generated in components provided in said vacuum process chamber.

12. (new) A method of diagnosing a semiconductor processing apparatus according to claim 9, further comprising analyzing a signal detected by said detection step and estimating a condition inside said vacuum process chamber.

13. (new) A method of diagnosing a semiconductor processing apparatus for imparting a treatment to a sample arranged in a vacuum process chamber, including process gas introduction means for introducing a process gas into said vacuum process chamber, said method comprising the steps of:

imparting mechanical oscillation to said semiconductor processing apparatus; and

detecting the mechanical oscillation generated by said step of imparting mechanical oscillation inside said semiconductor processing apparatus.

14. (new) A method of diagnosing a semiconductor processing apparatus according to claim 13, wherein the mechanical oscillation to said semiconductor processing apparatus is imparted by at least one oscillator, signals representing mechanical oscillations generated inside said semiconductor processing apparatus are detected by at least one detector, and analyzing the detected signals to specify a position inside said vacuum process chamber of said semiconductor processing apparatus at which an abnormality has occurred.

15.   (new) A method of diagnosing a semiconductor processing apparatus according to claim 14, wherein a plurality of oscillators and a plurality of detectors are provided.

16.   (new) A diagnosis method for diagnosing a cleaning condition of a semiconductor processing apparatus, including gas introduction means for introducing a process gas into a vacuum process chamber, means for imparting plasma treatment to a sample arranged in said vacuum process chamber and means for removing a deposit inside said vacuum process chamber, said diagnosis method comprising the steps of:

imparting mechanical oscillation to said semiconductor processing apparatus; and

detecting the mechanical oscillation generated by said of imparting mechanical oscillation step inside said vacuum process chamber.